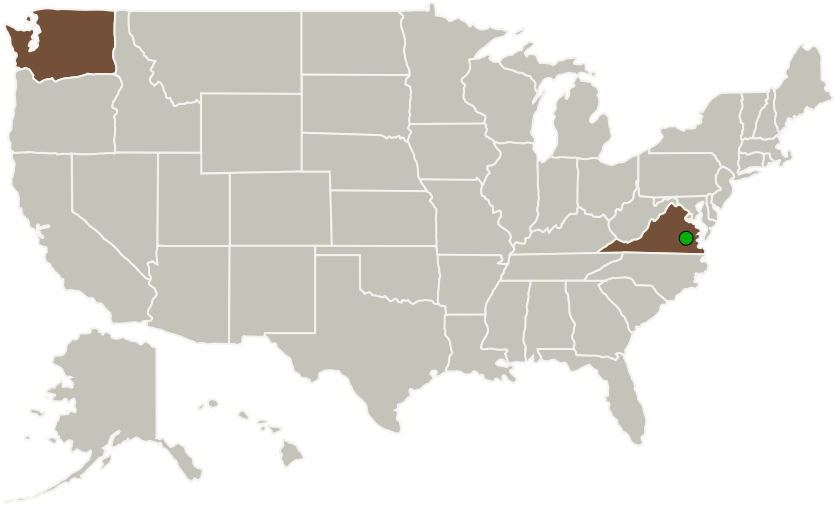
Flight Deck I-Glasses, Phase I

Completed Technology Project (2011 - 2011)

Project Introduction

Flight Deck i-Glasses is a color, stereoscopic 3-D display mounted on consumer style eye glass frames that will enhance operator performance and multi-modal interface research for NextGen operators. This innovative project will prove that Microvision's new Pico Display Engine and new waveguide optic technologies mounted on commercial eyeglass frames will create a novel visual interface system where users can toggle information between left- or right-eye and view information in either a bi-ocular or 3-D stereo mode as required. Leveraging the state of the art monocular goggle display, Microvision will identify commercial eye frames engineering requirements to determine size, weight and center-of-gravity constraints and then research what optics, electronics, mechanical and system interface alternatives exist. Alternate designs of Pico Display Engine and electronic modules will be investigated. A simplified optical relay approach and waveguide optical concepts design will be researched. At the conclusion of Phase 1, Microvision will report the scientific and technical feasibility findings and will provide bench-top demonstration of candidate Phase 2 waveguide optics technologies. Finally, needed research/research and development tasks required to build a Phase 2 prototype will be identified.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Microvision, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
Microvision, Inc.	Lead Organization	Industry	Redmond, Washington
Langley Research Center(LaRC)	Supporting Organization	NASA Center	Hampton, Virginia

Primary U.S. Work Locations	
Virginia	Washington

Project Transitions

February 2011: Project Start

September 2011: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/138171)*

Project Management

Program Director:

Jason L Kessler

Program Manager:

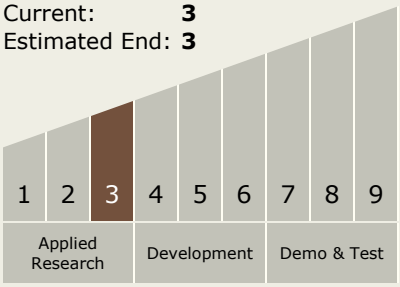
Carlos Torrez

Principal Investigator:

Mason Thomas

Technology Maturity (TRL)

Start: **3**
Current: **3**
Estimated End: **3**



Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
  - TX06.2 Extravehicular Activity Systems
    - TX06.2.3 Informatics and Decision Support Systems

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Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System